

**REMARKS**

The claims have been amended to address the 112, first paragraph rejection and to clarify the invention. The specification has been amended to correct a minor clerical error. No new matter has been entered.

The several art rejections are respectfully traversed. Considering first the rejection of claims 41, 46 and 47 as obvious from Nacci et al. in view of Johnson and further in view of Drummond et al., independent claims 41, 46 and 47, as amended, all include the step of seeding the plurality of vias with a conductive ink prior to plating the vias to form the conductive pathways between the top surface and the bottom surface. The Examiner acknowledges that Nacci et al. fails to teach forming conductive vias. Johnson, which has been cited as teaching forming conductive vias also fails to teach the step of seeding. And, Drummond et al. also fails to teach this step. Accordingly, no combination of Nacci et al., Johnson and Drummond et al. could achieve or render obvious claims 1, 46 or 47.

Turning to the rejection of claims 42-45 as obvious from Nacci et al. in view of Johnson and Drummond et al. and further in view of Lowe et al., claims 42-45 are directly or indirectly dependent on claim 41. The deficiencies of Nacci et al., Johnson and Drummond et al. vis-à-vis claim 41 are discussed below relative to claim 41. Lowe et al. does not supply the missing teachings. Accordingly, no combination of Nacci et al., Johnson, Drummond et al. and Lowe et al. achieves or renders obvious claim 41, or claims 42-45 which depend therefrom.

Turning to the rejection of claims 48 and 51-55 as obvious from Nacci et al., Johnson, Drummond et al. and further in view of Takahashi et al., claim 48 also requires the step of seeding the plurality of vias with a conductive ink prior to plating the vias to form conductive pathways between the top surface and the bottom surface. As noted supra, neither Nacci et al.,

**HAYES SOLOWAY P.C.**  
130 W. CUSHING STREET  
TUCSON, AZ 85701  
TEL. 520.882.7623  
FAX. 520.882.7643

175 CANAL STREET  
MANCHESTER, NH 03101  
TEL. 603.668.1400  
FAX. 603.668.8567

Johnson or Drummond et al. teach this. Takahashi et al. also fails to supply this missing teaching. Accordingly, no combination of Nacci et al., Johnson, Drummond et al. and Takahashi et al. reasonably could be said to achieve claim 48 or any of claims 51-59 which depend or indirectly on claim 48.

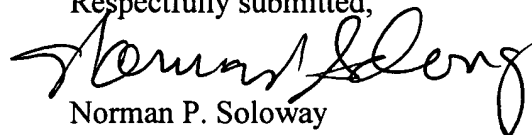
Turning to the rejection of claims 49 and 50 as obvious from Nacci et al. in view of Johnson, Drummond et al., and Takahashi et al. and further in view of Lowe et al., claims 49 and 50 are dependent on claim 48. The deficiencies of Nacci et al., Johnson, Drummond et al. and Takahashi et al. vis-à-vis claim 48 are discussed above. As noted supra, with regard to the rejection of claims 42-45, Lowe et al. also fails to teach or suggest the seeding step that is required by claim 48. Accordingly, no combination of Nacci et al., Johnson, Drummond et al., Takahashi et al. and Lowe et al. could achieve or render obvious claim 48, or claims 49 and 50 which depend thereon.

Having dealt with all the rejections raised by the Examiner, it is believed the Application is in order for allowance. Early and favorable action is respectfully requested.

Form PTO-2038 in the amount of \$60.00 is enclosed to cover the one month extension of time.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account Number 08-1391.

Respectfully submitted,



Norman P. Soloway  
Attorney for Applicant  
Reg. No. 24,315

**HAYES SOLOWAY P.C.**  
130 W. CUSHING STREET  
TUCSON, AZ 85701  
TEL. 520.882.7623  
FAX. 520.882.7643

175 CANAL STREET  
MANCHESTER, NH 03101  
TEL. 603.668.1400  
FAX. 603.668.8567



Serial No. 09/890,471  
Docket No. BERG 99.01 CIP  
Amendment F

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail in an envelope addressed to: MAIL STOP AMENDMENT, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on September 20, 2005, at Tucson, Arizona.

By Kim Hood

NPS:kg

**HAYES SOLOWAY P.C.**  
130 W. CUSHING STREET  
TUCSON, AZ 85701  
TEL. 520.882.7623  
FAX. 520.882.7643

175 CANAL STREET  
MANCHESTER, NH 03101  
TEL. 603.668.1400  
FAX. 603.668.8567